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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,384	05/02/2001	Jun Someya	1190-0496P	4056

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EXAMINER

RAHMJOO, MANUCHER

ART UNIT	PAPER NUMBER
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2676

11

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,384

Applicant(s)

SOMEYA ET AL.

Examiner

Mike Rahmjoo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4 - 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US Patent 5,987,185) in view of Le (US Patent 6,608,942).

As per claims 1 and 8 Suzuki teaches a detection unit (characteristic extraction means) for detecting bright parts of the image, detected by the detection unit, that are adjacent to dark parts of the image, from the image data see for example column 2 lines 45- 67 and column 7 lines 5- 10 (white and black dots); a smoothing unit (see for example the filter means for filtering of column 2 line 59) coupled to the detection unit, for smoothing the bright parts of the image that are adjacent to the dark parts of the image by filtering the image data, leaving the dark parts of the image unsmoothed see for example column 7 lines 64- 67 through column 8 lines 1-2 and column 11 lines 28- 39 and figure 25.

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However, Suzuki does not teach a display unit coupled to the smoothing unit, for displaying the image data, including the smoothed bright parts of the image and the unsmoothed dark parts of the image.

Le teaches a display unit coupled to the smoothing unit, for displaying the image data, including the smoothed bright parts of the image and the unsmoothed dark parts of the image, unsampling and a pixel map representation of a particular color for each pixel see for example column 6 lines 42- 67 and figure 1.

It would have been made obvious to one of ordinary art at the time the invention was made to incorporate the teachings of Le into Suzuki to reduce or eliminate any jagged edges and resolve data from a lower resolution to a higher resolution and represent the Image on an FLCD see for example column 6 lines 42- 50.

As per claim 2 Le teaches the image data include data for different primary colors, and the detection unit detects said bright parts separately for each primary color see for example column 11 lines 3- 15.

As per claims 4 and 9 Le teaches the detection unit also detects edges in the image from the image data, and controls the smoothing unit so that only bright parts of the image that are adjacent to the detected edges are smoothed see for example column 29 lines 15- 18 and column 8 lines 14- 24.

As per claims 5 and 10 Suzuki teaches the detection unit also detects dark parts of the image (black) having at most a predetermined width, and controls the smoothing unit so that only bright parts of the image (white) that are adjacent to the detected dark parts having at most the predetermined width (through the calibrated positions of black

and white) are smoothed see for example figures 6-11 and 23- 29.

As per claims 6 and 11 Le teaches the image data include data for different primary colors, and the smoothing unit uses different filtering characteristics for the different primary colors see for example column 11 lines 50- 65 and figures 6- 7.

As per claim 7 Suzuki teaches the image data include a luminance signal, and the smoothing unit filters the luminance signal see for example column 12 lines 52- 62 and figure 29.

Claims 21- 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US Patent 5,987,185) in view of Kawamura (US Patent 5,251,267).

As per claims 21 and 24 Suzuki teaches detection and smoothing units.

However, Suzuki does not teach the smoothing unit includes at least two filters.

Kawamura teaches the smoothing unit includes at least two filters (see for example the two filters of column 5 lines 38- 40), the image being selectively filtered through one of the at least two filters determinative upon a control signal produced by the detection unit for selection of light and dark parts see for example figures 1- 4.

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Kawamura into Suzuki to provide different filtering and therefore enhance the quality of output image and at the same time increase the versatility and reliability of the display panel with increased brightness.

As per claims 22 and 25 Kawamura teaches the first filter is selected if the detection unit detects a bright part of the image adjacent to a dark part of the image see

for example column 2 lines 65- 67 and column 3 lines 1- 9.

As per claim 23 and 26 Kawamura teaches the second filter is selected if the detection unit does not detect a bright part of the image adjacent to a dark part of the image see for example column 4 lines 50- 67 and figures 4a- d through the process of arithmetic operations that lead to differential filter output.

Response to Arguments

Applicant's arguments filed 06/23/2004 have been fully considered but they are not persuasive.

As per applicant's remarks on page 13 and 2nd paragraph, applicant argues "the present invention provides a smoothing filtering operation which only filters bright areas adjacent to the dark areas and thus the **dark areas not being filtered** which creates a smoothing effect desired when viewing, for example, text while also keeping the dark areas from being faint" which the applicant views as being contrary to the teachings of the prior art made of the reference.

The examiner respectfully disagrees.

The dark areas of Suzuki "areas of the chart formed of slender radial lines 61" are by no means filtered due to the fact that the type of filtering performed is of low pass filtering see for example column 7 lines 47- 67 and column 8 lines 1- 2 and figures 13- 14. The areas 62 and 63, referred to as noise, are both eliminated through the conventional and the first preferred embodiment of the present invention.

Additionally the present invention leaves the slender **lines as they really are** according to Suzuki on column 7 lines 59- 63 which starts " these slender lines are **reproduced as they really are** when the picture images are processed with the multiple value image filtering device in the first preferred embodiments. **In addition, this filtering device completely eliminates the noise** found in FIG. 13". Examiner finds said highlighted portions of the prior art to be analogous to applicant's claimed invention wherein applicant recites " a smoothing unit coupled to the detection unit, for smoothing the bright parts of the image that are adjacent to the dark parts of the image by filtering the image data, leaving the dark parts of the image unsmoothed". Therefore, Suzuki clearly teaches applicant's invention as claimed. The different gradations of Suzuki at the same time are concerned with the dark and bright parts of the image referred as "black and white".

Applicant argues on page 15, 2nd paragraph that Le and Kawamura do not overcome the deficiency of Suzuki.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically

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pointing out how the language of the claims patentably distinguishes them from the references.

Le clearly teaches a display unit coupled to the smoothing unit, for displaying the image data, including the smoothed bright parts of the image and the unsmoothed dark parts of the image, unsampling and a pixel map representation of a particular color for each pixel see for example column 6 lines 42- 67 and figure 1.

In response to applicant's argument on page 15, 2nd paragraph wherein applicant argues "the office action alleges **that both filters belong to the smoothing circuit**" and further states "Kawamura does teach or suggest a smoothing unit that uses at least two filters", upon careful review of the previous office action, examiner does not notice any such citation by examiner. Kawamura does teach "filtering through one of at least two filters" as per applicant's claimed invention.

This application contains claims 12- 20 drawn to an invention nonelected with traverse in the reply filed on 08/21/2003. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is (703) 305-5658. The examiner can normally be reached on 6:30- 3:00.

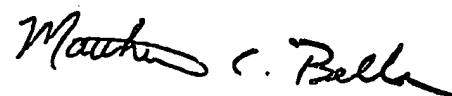
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (703) 308- 6829. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872- 9314 for regular communications and (703) 872- 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305- 4750.

Mike Rahmjoo

July 14, 2004



MATTHEW C. BELLA
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